

## Letter from Alexander Graham Bell to Mabel Hubbard Bell, May 6, 1900, with transcript

ALEXANDER GRAHAM BELL TO MABEL (Hubbard) BELL Beinn Bhreagh, C. B. Sunday, May 6, 1900. My darling Mabel:

I have been working day and night in hopes of being able to get away tomorrow night — but cannot do it. I cannot understand the extraordinary results obtained this year regarding the sex of the lambs.

Out of 474 lambs born in previous years 249 or 52 ½ per cent were males, and it has always been the case heretofore that the majority of the lambs born in March were males. Out of 123 lambs 67 or 54.4 per cent were males.

Now it is all the other way. Out of 42 lambs born up to date only 13 (or 31 per cent) are males, and 29 (or 69 percent) are females! It seems hardly possible that our experiments at feeding last Autumn could have been responsible for this result — but if so — important information concerning the conditions that affect sex have been discovered.

On Tuesday John McKillop starts upon an exploring tour of the neighbours to gather statistics concerning the number of male and female lambs born this year in the neighbouring farms.

If my flock is peculiar in the large proportion of females born — this will indicate that the conditions are local — and that it will be worth my while collecting every item of information concerning the care of the sheep last winter.

The winter has been exceptional and it may be that 2 the sheep of the country generally have responded in this abnormal manner.

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Two or three days more will give the information desired and in the meantime my hands will be full with statistics of sheep and Schools for the Deaf . I can work at these latter here with less interruption than in Washington — as I am completely master of my time — and can write my annual report on the condition of speech-teaching for the Association Review before coming down. I hope to leave Friday morning.

The more I study the following graphical chart showing the proportion of male and female lambs born here since 1890 — the more I feel convinced that, in sheep, external conditions affect the sex of the offspring — and with my voluminous records I should be able to find out what these conditions are.

The abnormal conditions existing this last year are evidently of importance — by the results produced — and I can only find them out here — upon the spot — and now — while all the facts are fresh in the mind of John McKillop. In addition to the feeding experiment made at the time of the mating of the sheep — I have found by cross-examination, two other points concerning feed. In fact years the winter feed was dry hay alone — and the sheep were either driven to water — or water brought to them. This winter John McKillop (after the 1st of 3 January) fed them upon green oats — (much more nutritious than hay) — and turned them into a large pasture in which there is a spring of water. The curve of weights tells the tale of increased nourishment about the 1st of January — by a rise, affecting the whole flock. In fact it was this rise in the curve that led to the discovery of the green-oat food — for I noticed the rise and cross-examined John concerning the cause. Still I do not see how this could affect the sex of the unborn lamb excepting perhaps indirectly, upon the hypothesis of the extinguishment of a twin — (the males being assumed weaker than the females — so that increased growth in the unborn twins and diminished room in the fattening mother — would tend to the death of the weaker twin — and the subsequent appearance of the survivor as a single lamb.

Upon this hypothesis the proportion of females (assumed to be the stronger sex) should be greater among the (apparently) single lambs than among the twins. But this year it is

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not. The proportion is the same. 31% males and 69% females among the single as well as the twins!

This seems to knock the twin theory upon the head.

The change of feed in January could not directly affect sex, because sex is determined very early in embryonic life. If external conditions are responsible for the abnormality we must seek for abnormal conditions existing as early as October or November. I know of no 4 other abnormal conditions so early — excepting the extra feed we gave the sheep up to the time of mating, which extra feed was cut off immediately the mating had been accomplished.

Yes — one other unusual condition — free access to running water.

The weather also was unusual. If this had anything to do with the result we should find the same abnormal proportion of females in the flocks of our neighbours.

In sheep — the production of females is very desirable. Every female may become a mother — but the males — with the exception of one or two — are only good for mutton.

Out of 43 lambs born last year — I have only 5 females on hand to continue the breed.

Out of 42 lambs born this year no less than 20 females (of a desirable kind) are available to increase the flock.

The discovery of conditions affecting the sex of offspring would not only be of the greatest interest to all thinking persons, but would also be of the greatest value and importance to practical breeders of animals.

The days have gone so rapidly that I am horrified to find Sunday is here and this is my first letter to you since arriving. However, I have telegraphed nearly every day — although I know you do not feel — as I do — that telegrams keep us in touch with one another when

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far away — 5 whereas letters that take a week or ten days to bring a reply do not. My disinclination to letter writing increases in geometrical proportion to the distance and time. If we could only have a cipher code — we could say anything in a telegram — but you can't whisper confidences through intermediaries!

Susie and the boys came over here last Wednesday and took supper here.

Mr. and Mrs. Kennan arrived Friday evening — not Saturday as I expected from your note saying they would leave New York Thursday. I found out they were coming (about five o'clock Friday) — and immediately hunted round for flowers to greet them with, in accordance with your instructions. But “nary a flower” — not even a violet from the Observatory bed could be found. I consulted Maggie as to what I could take and she suggested “ Soup ”

So soup it was — and Beinn Bhreagh milk with an extra infusion of cream — and a small packet of cigars for Mr. Kennan. I went over to the house and greeted them both on their arrival. Mr. Kennan looked tired — as he was . But looked better than I expected.

Mr. Blanchard took supper with me Saturday — and gave me some new stories — very good ones too. I neglected to note them — and they are gone — Can't think of one!

The pheasants are magnificent birds — the males handsomer than peacocks. Angus has collected seven eggs already and is trying to find a setting hen to hatch them out. I telegraphed to you that I released three pheasants in the woods — (south shore road). I saw the male this 6 morning so he is all right. The two females were not with him. I suppose he will find them after a while if he does not know now where they are.

I think pheasants should do well on Beinn Bhreagh. We still have one male and four females in confinement — besides young ones in ?osse . I have not had the heart to go near the Laboratory — or the Lodge.

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Desolation reigns at that end of the property. Will Twin Oaks keep your dear mother for ever away from here I wonder. I love her very dearly — though you don't seem to think I show it very much. I do all the same — although I suppose it will require an emergency to demonstrate it. And I love you too my dear — though sheep — and kites — deaf-mutes and gravitation stand in the way. There is a mixture for you! Sheep and kites — deaf-mutes and gravitation!! Goodnight.

Your loving husband, Alec. How is the bust getting on? I wonder whether Daidums will try her hand. With Daisy modelling in clay and Elsie evincing ability in drawing I don't know where I am at!